

We Claim:

1. A method for fabricating a semiconductor component, which comprises the steps of:

providing a semiconductor body containing a substrate and at least one nitride compound semiconductor disposed on the substrate;

applying a metal layer to a surface of the semiconductor body;
and

dry-chemically removing a part of the metal layer and a part of the semiconductor body previously covered by the removed metal layer.

2. The method according to claim 1, which further comprises forming the nitride compound semiconductor as a compound having a formula $\text{Al}_y\text{In}_x\text{Ga}_{1-x-y}\text{N}$, $0 \leq x \leq 1$, $0 \leq y \leq 1$, $0 \leq x+y \leq 1$.

3. The method according to claim 1, wherein the dry-chemically removing step is preformed by the steps of:

forming a mask on the metal layer, a part of the metal layer not being covered by the mask;

removing that part of the metal layer which is not covered by the mask, a part of the surface of the semiconductor body thereby being uncovered and defining an uncovered surface;

partially removing the semiconductor body in regions of the uncovered surface; and

removing the mask.

4. The method according to claim 3, which further comprises forming the mask as a dielectric mask which contains at least one material selected from the group consisting of silicon oxide, aluminum oxide, silicon nitride, titanium oxide, Ta oxide, zirconium oxide, and a layer system containing at least one of the materials.

5. The method according to claim 3, which further comprises fabricating the mask photolithographically, in which a photoresist mask is fabricated on the mask.

6. The method according to claim 1, which further comprises removing the metal layer by a sputtering-back method.

7. The method according to claim 1, which further comprises removing the part of the semiconductor body by an etching method.

8. The method according to claim 1, which further comprises applying a passivation layer to the surface of the semiconductor body and part of the metal layer, at least a further part of the metal layer not being covered by the passivation layer.

9. The method according to claim 8, wherein the step of applying the passivation layer further comprises the steps of:

applying the passivation layer as a continuous passivation layer to the surface of the semiconductor body and the part of the metal layer;

applying a mask on the continuous passivation layer, the mask not covering the passivation layer at least in a region in which the passivation layer adjoins the metal layer;

removing parts of the passivation layer which are not covered with the mask; and

removing the mask.

10. The method according to claim 8, which further comprises forming the passivation layer to contain a silicon oxide.

11. The method according to claim 9, which further comprises fabricating the mask photolithographically.

12. The method according to claim 1, which further comprises applying a contact metallization.

13. The method according to claim 1, which further comprises forming the metal layer to contain a material selected from the group consisting of platinum and palladium.

14. The method according to claim 1, which further comprises forming a thickness of the metal layer to be between 5 nm and 500 nm.

15. The method according to claim 1, which further comprises forming the semiconductor body to be p-doped in a region adjoining the metal layer.

16. The method according to claim 15, which further comprises doping the p-doped region of the semiconductor body with a material selected from the group consisting of magnesium and zinc.

17. The method according to claim 3, which further comprises forming the semiconductor body with a radiation-generating active layer.

18. The method according to claim 17, wherein a semiconductor ridge structure is shaped by the partially removing of the semiconductor body step.

19. The method according to claim 18, wherein the semiconductor ridge structure forms a waveguide at least for parts of radiation generated by the active layer.

20. The method according to claim 17, wherein the semiconductor component is a luminescence diode.

21. The method according to claim 20, wherein the luminescence diode is selected from the group consisting of light-emitting diodes, laser diodes, and laser diodes with a ridge waveguide.

22. The method according to claim 2, which further comprises forming the substrate to be n-conducting.

23. The method according to claim 22, which further comprises forming the substrate to be selected from the group consisting of n-doped SiC and n-doped GaN.

24. The method according to claim 1, which further comprises

forming a thickness of the metal layer to be between 40 nm and 120 nm.

25. The method according to claim 1, which further comprises removing the metal layer by an etching method.